PATENT SPECIFICATION

Application Date: June 30, 1937. No. 18139/37. 475,781

Complete Specification Left: July 24, 1937.

Complete Specification Accepted: Nov. 25, 1937.

PROVISIONAL SPECIFICATION

Improvements in or relating to Fire Hydrant and Associated Hose Reel Apparatus

We, S. DIXON & SON LIMITED, a company organised under the laws of Great Britain, of 20, Swinegate, Leeds, 1, in the County of York, and ARTHUR LOUIS GIRDLER, a British subject, of 38, Primley Park Avenue, Moortown, Leeds, aforesaid, do hereby declare the nature of this invention to be as follows:—

This invention relates to fire hydrant and associated hose reel apparatus of the kind wherein the hose nozzle is adapted to serve as a turn key mounted on or connected to the cock or valve of the reel in such a manner that it cannot be removed or disconnected therefrom without automatically turning on said cock or valve, so that it is impossible for a person to take the nozzle and to run out the reel of hose without first turning on the water supply to said hose.

In this kind of apparatus the hose nozzle has been mounted on the spindle of the cock or valve and has been prevented from being removed therefrom by bayonet joint mechanism until it has been turned sufficiently to open the cock or valve, and the object of the present invention is to facilitate or expedite the disconnection or removal of the hose nozzle once the water supply has been turned on.

According to the invention, resilient or spring means are provided which automatically come into action to partially or wholly disengage the hose nozzle from the turn cock or valve once the bayonet joint elements have been moved out of register.

In an embodiment of the invention, the socket on the hose nozzle which takes over the square or other spindle of the turn cock or valve houses a helical spring which is normally under compression between the top of said spindle and the top of the socket or housing. Thus when the nozzle is turned to open the cock or valve and bring the one or more bayonet projections on the socket into register with a gap or gaps in the retaining member on the cock or valve, the spring comes into action to partially or wholly eject the nozzle from engagement with the cock or valve. In this connection the locking or retaining member may have appropriately inclined or chamfered faces which permit the spring-loading to come into action gradually as the or each bayonet projection approaches its gap in the other or retaining member.

As an alternative the spring may be housed within the retaining member around the spindle of the cock or valve and will be normally compressed between the top of the cock or valve casing and the lower face of the socket on the nozzle.

Further, instead of employing a helical spring, a resilient rubber sleeve or cushion may be employed in lieu thereof.

It will be seen that with the present invention the rapidity with which the nozzle can be brought into action will be materially increased.

Dated this 29th day of June, 1937.
S. DIXON & SON LIMITED,
ARTHUR LOUIS GIRDLER,
Per John E. Walsh & Co.,
7, East Parade, Leeds, 1, and at Halifax,
Agents for Applicants.

COMPLETE SPECIFICATION

Improvements in or relating to Fire Hydrant and Associated Hose Reel Apparatus

We, S. DIXON & SON LIMITED, a company organised under the laws of Great Britain, of 20, Swinegate, Leeds, 1, in the County of York, and ARTHUR LOUIS GIRDLER, a British subject, of 38, Primley Park Avenue, Moortown, Leeds, aforesaid, do hereby declare the nature of this invention, and in what manner

the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to fire hydrant and associated hose reel apparatus of the kind wherein the hose nozzle is adapted to serve as a turn key mounted on or connected to the cock or valve of the hydrant in such a manner that it cannot be removed or disconnected therefrom without automatically turning on said cock or valve, so that it is impossible for a person to take the nozzle and to run out the reel of hose without first turning on the water supply to said hose.

In this kind of apparatus the hose nozzle has been mounted on the spindle of the cock or valve and has been prevented from being removed therefrom by bayonet joint mechanism until it has been turned sufficiently to open the cock or valve, and the object of the present invention is to facilitate or expedite the disconnection or removal of the hose nozzle once the water supply has been turned on.

According to the invention, resilient or spring means are provided which automatically come into action to partially or wholly disengage the hose nozzle from the turn cock or valve once the bayonet joint elements have been moved out of register.

In order that the invention may be clearly understood and readily carried into effect, the same will now be more fully described with reference to and by the aid of the embodiment illustrated in the accompanying drawings; wherein:—

Figures 1 and 2 are respectively a part sectional side elevation and a plan view of a fire hydrant cock and associated nozzle of a hose reel apparatus (not shown).

Figure 3 is a fragmentary sectional elevation illustrating the socket portion on the nozzle which takes over the spindle of the turn cock on the hydrant.

Figure 4 is a fragmentary sectional elevation of turn cock spindle and associated nozzle retaining member.

Referring to the drawings, the hose nozzle 1 is formed with a right-angularly disposed socket member 2 which takes over and fits the squared end of the spindle 3 of the cock or valve 4 in the manner of an ordinary turn key. The valve body is fitted with a cylindrical housing or retaining member 5 which surrounds the spindle 3 and the socket member 2 when in position thereon, and this retaining member 5 has an inwardly directed annular flange 6 below which a lateral projection 7 on the socket member 2 engages and moves until turned into register with a gap at 8 in said flange 6 when the nozzle 1 can be disengaged from the spindle 3. The arrangement or disposition of the gap in the flange 6 is such as to ensure that the turning of the nozzle 1 to bring it into the releasing position will be sufficient to turn on the cock or valve 4, and this rotary movement may be determined by stops or inwardly directed projections 9 on the inner wall of the housing or retaining member 5, and in this connection the member 5 is marked on its flange 6 with the words "shut" and "open" in appropriate positions.

The socket member 2 houses a helical compression spring 10 which is normally under compression between the top of the spindle 3 and the top of the socket or housing as shown in Figure 1. Thus when the nozzle 1 is turned to open the cock or valve 4 and bring the bayonet projection 7 into register with the gap 8 in the flange 6 of the retaining member 5, the spring 10 comes into action to wholly or partially eject the nozzle 1 from engagement with the cock or valve. In this connection the underside of the flange 6 is chamfered or inclined at 11 to afford a lead for the projection 7 into the gap 8 and thereby ensure that the spring-loading will come into action gradually. There may, of course, be a plurality of bayonet projections 7 around the nozzle socket member 2 with a corresponding number of gaps in the flange 6, each gap having an associated inclined face or chamfer to afford a lead for the co-operating projection 7.

As an alternative the spring may be housed within the retaining member around the spindle of the cock or valve and will normally be compressed between the top of the cock or valve casing and the lower face of the socket on the nozzle.

Further, instead of employing a helical spring, a resilient rubber sleeve or cushion may be employed in lieu thereof.

It will be seen that with the present invention the rapidity with which the nozzle can be brought into action will be materially increased.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—

1. In fire hydrant and hose reel apparatus of the kind specified, the provision of resilient or spring means which automatically comes into action to partially or wholly disengage the hose nozzle from the turn cock or valve once

the bayonet joint elements have been moved out of register.

2. Fire hydrant and hose reel apparatus according to claim 1, wherein the socket on the nozzle which takes over the spindle of the cock or valve houses a helical spring which is normally under compression between the top of the spindle and the top of the socket or housing.

3. Fire hydrant and hose reel apparatus according to claim 1 or 2, wherein a retaining member on the cock or valve which co-operates with one or more bayonet projections on the nozzle socket member and is formed with a gap for each such projection to pass through, has an inclined or chamfered face leading to the or each gap to permit the spring-loading to come into action gradually as the bayonet joint elements are brought out of register.

4. Fire hydrant and hose reel apparatus constructed, arranged and adapted to operate substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

Dated this 22nd day of July, 1937.

S. DIXON & SON LIMITED,
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FIG. 1.

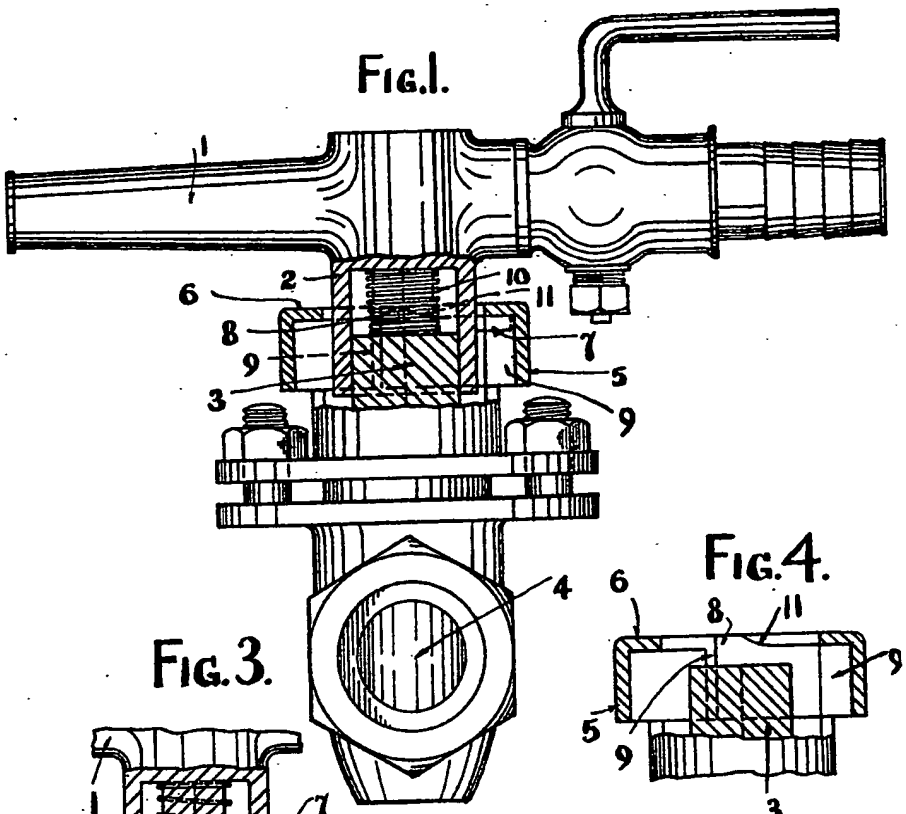


FIG. 4.

FIG. 3.

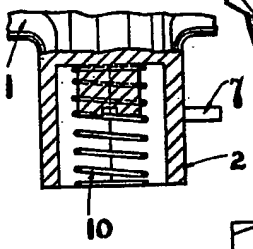
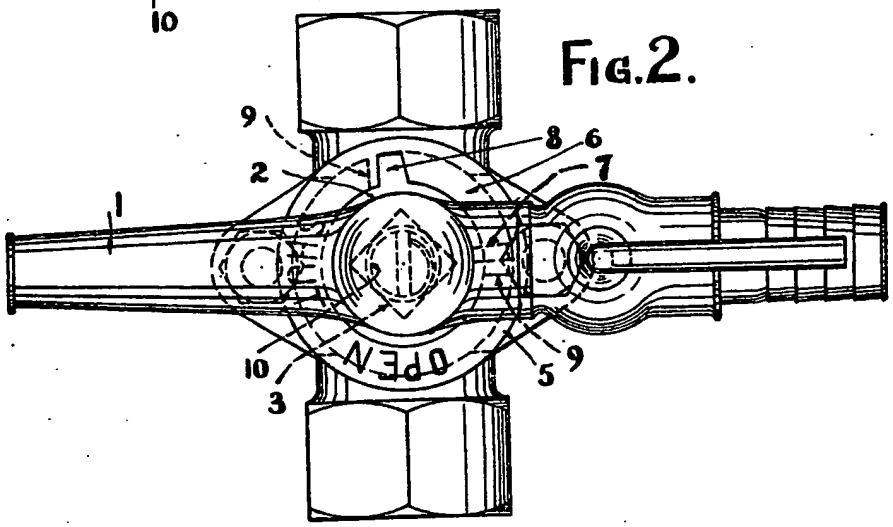


FIG. 2.



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